

Figure 1

85P1B3 SSH sequence and GenBank homology to OIP5

```
GATCAGAGGACACATGGGACTCTGCATCTTAATTCTAAATTACAGTCAAAGACATTTAG  
AGATAAGTATTATGAATTCAATAAGAACATCTAAAGTAAGTTCTAAGGCAAATAGCTATAAAA  
GAGAAGAACATCCTAGTCTCATCTTCTAAAAACAGCTTCACAAATAATTGGAAAATCAGCC  
TAAAGGTAAATAGAAACTGCATTCCCCTCATTCTGAAGCCAATCTTCAAGAAATGAC  
TAAGCAGCACCTGTTGAAGACAGCAATAAGCCTGACACTCAAGCTTGGTACA  
GGATC
```

gb|AF025441.1|AF025441 Homo sapiens Opa-interacting protein... 632 e-179
gb|AF158642.1|AF158642 Homo sapiens metalloproteinase-disin... 42 0.12
gb|AC005075.2|AC005075 Homo sapiens clone RG219E16, complet... 42 0.12
emb|AL096773.6|HS1000E10 Human DNA sequence from clone 1000... 40 0.48

>gb|AF025441.1|AF025441 Homo sapiens Opa-interacting protein OIP5 mRNA, partial cds
Length = 1197

Score = 632 bits (319), Expect = e-179

Identities = 319/319 (100%)

Strand = Plus / Minus

```
Query: 1      gatcagaggacacatgggactctgcacatcttaattcctaaatttacagtcaaagacat 60  
          ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||  
Sbjct: 1013  gatcagaggacacatgggactctgcacatcttaattcctaaatttacagtcaaagacat 954
```

```
Query: 61      cagagataagtattatgaattcaataagaatctaaagtaagttcttaaggcaaata 120  
          ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||  
Sbjct: 953  cagagataagtattatgaattcaataagaatctaaagtaagttcttaaggcaaata 894
```

```
Query: 121     taaaagagaagaatccttagtctctcatcttctaaaaacagcttcacaaataatttggaa 180  
          ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||  
Sbjct: 893  taaaagagaagaatccttagtctctcatcttctaaaaacagcttcacaaataatttggaa 834
```

```
Query: 181     aatcagcctaaaggtaaatagaaactgcattccctccattcttgaagccaatctttt 240  
          ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||  
Sbjct: 833  aatcagcctaaaggtaaatagaaactgcattccctccattcttgaagccaatctttt 774
```

```
Query: 241     caagaaatgactaaggcagcacctgttgaagacagcaataaagcctgaacctgacact 300  
          ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||  
Sbjct: 773  caagaaatgactaaggcagcacctgttgaagacagcaataaagcctgaacctgacact 714
```

```
Query: 301     caagcttggtagggatc 319  
          ||||||| ||||||| |||||||  
Sbjct: 713  caagcttggtagggatc 695
```

Figure 2

cDNA Sequence and ORF of 85P1B3/OIP5 clone A

| | | | | | | | | | | | | | | | | | | |
|----|-----|-----|--------------------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5' | GGC | TGC | GGG AAG ATG | GCG | GCT | CAG | CCG | CTG | CGG | CAT | CGC | TCA | CGT | TGT | GCA | ACG | | |
| | 9 | | 18 | | 27 | | 36 | | 45 | | 54 | | | | | | | |
| | | | | M | A | A | Q | P | L | R | H | R | S | R | C | A | T | |
| | CCG | CCC | CGG | GGG | GAC | TTT | TGT | GGT | GGC | ACT | GAG | AGG | GCG | ATT | GAC | CAA | GCT | 108 |
| | 63 | | 72 | | 81 | | 90 | | 99 | | | | | | | | | |
| | P | P | R G D | F | C | G | G | T | E | R | A | I | D | Q | A | S | | |
| | TTT | ACG | ACC | TCC | ATG | GAG | TGG | GAT | ACG | CAG | GTG | GTG | AAG | GGG | TCC | TCG | CCG | 162 |
| | 117 | | 126 | | 135 | | 144 | | 153 | | | | | | | | | |
| | F | T | T | S | M | E | W | D | T | Q | V | V | K | G | S | S | P | L |
| | GGC | CCC | GCA | GGG | CTG | GGG | GCT | GAG | GAG | CCA | GCC | GCC | GGC | CCG | 207 | CTG | CCG | 216 |
| | 171 | | 180 | | 189 | | 198 | | | | | | | | | | | |
| | G | P | A | G | L | G | A | E | E | P | A | A | G | P | Q | L | P | S |
| | TGG | CTG | CAG | CCT | GAG | AGG | TGC | GCT | GTG | TTC | CAG | TGC | GCA | CAG | 261 | CAC | GCA | 270 |
| | 225 | | 234 | | 243 | | 252 | | | | | | | | | | | |
| | W | L | Q | P | E | R | C | A | V | F | Q | C | A | Q | C | H | A | V |
| | CTC | GCC | GAC | TCG | G TG | CAC | CTC | GCC | TGG | GAC | CTG | TCG | CGG | TCC | 315 | GGG | GCC | 324 |
| | 279 | | 288 | | 297 | | 306 | | | | | | | | | | | |
| | L | A | D | S | V | H | L | A | W | D | L | S | R | S | L | G | A | V |
| | GTC | TTC | TCC | AGA | GTT | ACA | AAT | AAC | GTC | GTT | TTG | GAA | GCG | CCC | 369 | CTA | GTT | 378 |
| | 333 | | 342 | | 351 | | 360 | | | | | | | | | | | |
| | V | F | S | R | V | T | N | N | V | V | L | E | A | P | F | L | V | G |
| | ATT | GAA | GGT | TCA | CTC | AAA | GGC | AGT | ACT | TAC | AAC | CTT | TTA | TTC | 423 | GGT | TCT | 432 |
| | 387 | | 396 | | 405 | | 414 | | | | | | | | | | | |
| | I | E | G | S | L | K | G | S | T | Y | N | L | L | F | C | G | S | C |
| | GGG | ATT | CCC | GTT | GGT | TTC | CAT | CTG | TAT | TCT | ACC | CAT | GCT | GCC | 477 | CTG | GCT | 486 |
| | 441 | | 450 | | 459 | | 468 | | | | | | | | | | | |
| | G | I | P | V | G | F | H | L | Y | S | T | H | A | A | L | A | A | L |
| | AGA | GGT | CAC | TTC | TGC | CTT | TCC | AGT | GAC | AAA | ATG | GTG | TGC | TAT | 531 | CTC | TTA | 540 |
| | 495 | | 504 | | 513 | | 522 | | | | | | | | | | | |
| | R | G | H | F | C | L | S | S | D | K | M | V | C | Y | L | L | K | T |
| | AAA | GCC | ATA | GTA | AAT | GCA | TCA | GAG | ATG | GAT | ATT | CAA | AAT | GTT | 585 | CCT | CTA | 594 |
| | 549 | | 558 | | 567 | | 576 | | | | | | | | | | | |
| | K | A | I | V | N | A | S | E | M | D | I | Q | N | V | P | L | S | E |
| | AAG | ATT | GCA | GAG | CTG | AAA | GAG | AAG | ATA | GTG | CTA | ACG | CAC | AAT | 639 | CGC | TTA | 648 |
| | 603 | | 612 | | 621 | | 630 | | | | | | | | | | | |
| | K | I | A | E | L | K | E | K | I | V | L | T | H | N | R | L | K | S |

| 657 | | | | 666 | | | | 675 | | | | 684 | | | | 693 | | | | 702 | | | |
|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|--|--|------|--|--|--|
| CTA | ATG | AAG | ATT | CTG | AGT | GAA | GTG | ACT | CCT | GAC | CAG | TCC | AAG | CCA | GAA | AAC | TGA | | | | | | |
| L | M | K | I | L | S | E | V | T | P | D | Q | S | K | P | E | N | * | | | | | | |
| 711 | | | | 720 | | | | 729 | | | | 738 | | | | 747 | | | | 756 | | | |
| TCC | TGT | ACC | AAA | GCT | TGA | GTG | TCA | GGT | TCA | GGC | TTT | ATT | GCT | GTC | TTC | AAC | AAC | | | | | | |
| 765 | | | | 774 | | | | 783 | | | | 792 | | | | 801 | | | | 810 | | | |
| AGG | TGC | TGC | TTA | GTC | ATT | TCT | TGA | AAA | AGA | TTG | GCT | TCA | AGA | ATG | GAG | GGG | AAA | | | | | | |
| 819 | | | | 828 | | | | 837 | | | | 846 | | | | 855 | | | | 864 | | | |
| TGC | AGT | TTC | TAT | TTA | CCT | TTA | GGC | TGA | TTT | TCC | AAA | TTA | TTT | GTG | AAG | CTG | TTT | | | | | | |
| 873 | | | | 882 | | | | 891 | | | | 900 | | | | 909 | | | | 918 | | | |
| TTA | GAA | GAT | GAG | AGA | CTA | AGG | ATT | CTT | CTC | TTT | TAT | AGC | TAT | TTG | CCT | TAA | GAA | | | | | | |
| 927 | | | | 936 | | | | 945 | | | | 954 | | | | 963 | | | | 972 | | | |
| CTT | ACT | TTA | GAT | TCT | TAT | TGA | ATT | CAT | AAT | ACT | TAT | CTC | TGA | AAA | TGT | CTT | TGA | | | | | | |
| 981 | | | | 990 | | | | 999 | | | | 1008 | | | | 1017 | | | | 1026 | | | |
| CTG | TAA | ATT | TAG | GAA | TTA | AGA | TGC | AGA | GTC | CCA | TGT | GTC | CTC | TGA | TCT | AAA | GT | | | | | | |
| 1035 | | | | 1044 | | | | 1053 | | | | 1062 | | | | 1071 | | | | 1080 | | | |
| GCA | TGG | TTG | GTC | TGA | AAA | TAG | AGT | TGG | GCT | TAA | TGT | TGA | CTT | CTA | TTA | CTC | CTG | | | | | | |
| 1089 | | | | 1098 | | | | 1107 | | | | 1116 | | | | 1125 | | | | 1134 | | | |
| CAT | GGA | GCA | GTT | GTT | ATG | AAT | ACT | AAT | ACA | TCA | CTT | TTT | AAC | TTC | TGT | AAA | ATA | | | | | | |
| 1143 | | | | 1152 | | | | 1161 | | | | 1170 | | | | 1179 | | | | 1188 | | | |
| CAG | ATC | ATA | ATA | TTC | TAT | AGG | TAA | TGT | TTA | ATA | AAT | TGC | CTG | AAT | AAT | AAA | AAA | | | | | | |
| 1197 | | | | 1206 | | | | 1215 | | | | 1224 | | | | 1233 | | | | 1242 | | | |
| AAA | AAA | AAA | AAA | AAA | AAA | | | | | | |
| 1251 | | | | 1260 | | | | | | | | | | | | | | | | | | | |
| AAA | AAA | AAA | AAA | AAA | AAA | AAA | AA | 3' | | | | | | | | | | | | | | | |

Figure 3

85P1B3/OIP5 protein sequence.

```
1 MAAQPLRHS RCATPPRGDF CGGTERAIDQ ASFTTSMEDW TQVVKGSSPL GPAGLGAEEP
61 AAGPQLPSWL QPERCAVFQC AQCHAVLADS VHLAWDLSRS LGAVVFSRVT NNVVLEAPFL
121 VGIEGSLKGS TYNLLFCGSC GIPVGFHLYS THAALAALRG HFCLSSDKMV CYLLKTKAIV
181 NASEMDIQNV PLSEKIAELK EKIVLTHNRL KSLMKILSEV TPDQSKPEN*
```

Figure 4

Alignment of 85P1B3 with OIP5.

>gi|2815610|gb|AAC39561.1| (AF025441) Opa-interacting protein OIP5 [Homo sapiens]
Length = 231

Score = 462 bits (1189), Expect = e-130

Identities = 229/229 (100%), Positives = 229/229 (100%)

| | | | | | |
|------------|---------------------------------------|--------------------------|-----------------|-------------|-----|
| 85P1B3: 1 | MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSM | MEWDTQVVKGSSPLGPAGLGAEEP | 60 | | |
| | MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSM | MEWDTQVVKGSSPLGPAGLGAEEP | | | |
| OIP5: 3 | MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSM | MEWDTQVVKGSSPLGPAGLGAEEP | 62 | | |
| 85P1B3: 61 | AAGPQLPSWLQPERCAVFQCAQCHA | VLDVHLAWDLSRS | LGAVVFSRV | TNNVVLEAPFL | 120 |
| | AAGPQLPSWLQPERCAVFQCAQCHA | VLDVHLAWDLSRS | LGAVVFSRV | TNNVVLEAPFL | |
| OIP5: 63 | AAGPQLPSWLQPERCAVFQCAQCHA | VLDVHLAWDLSRS | LGAVVFSRV | TNNVVLEAPFL | 122 |
| 85P1B3:121 | VGIEGSLKGSTYNLLFCGSCGIPVGFHLY | STHAALAALRGHFC | CLSSDKMVCYLLK | TKAIV | 180 |
| | VGIEGSLKGSTYNLLFCGSCGIPVGFHLY | STHAALAALRGHFC | CLSSDKMVCYLLK | TKAIV | |
| OIP5: 123 | VGIEGSLKGSTYNLLFCGSCGIPVGFHLY | STHAALAALRGHFC | CLSSDKMVCYLLK | TKAIV | 182 |
| 85P1B3:181 | NASEMDIQNVPLSEKIAELKEKIVL | THNRLKSLM | KILSEVTPDQSKPEN | 229 | |
| | NASEMDIQNVPLSEKIAELKEKIVL | THNRLKSLM | KILSEVTPDQSKPEN | | |
| OIP5: 183 | NASEMDIQNVPLSEKIAELKEKIVL | THNRLKSLM | KILSEVTPDQSKPEN | 231 | |

Figure 5: 85P1B3 Hydrophilicity profile
(Hopp T.P., Woods K.R., 1981. Proc. Natl. Acad. Sci. U.S.A. 78:3824-3828)

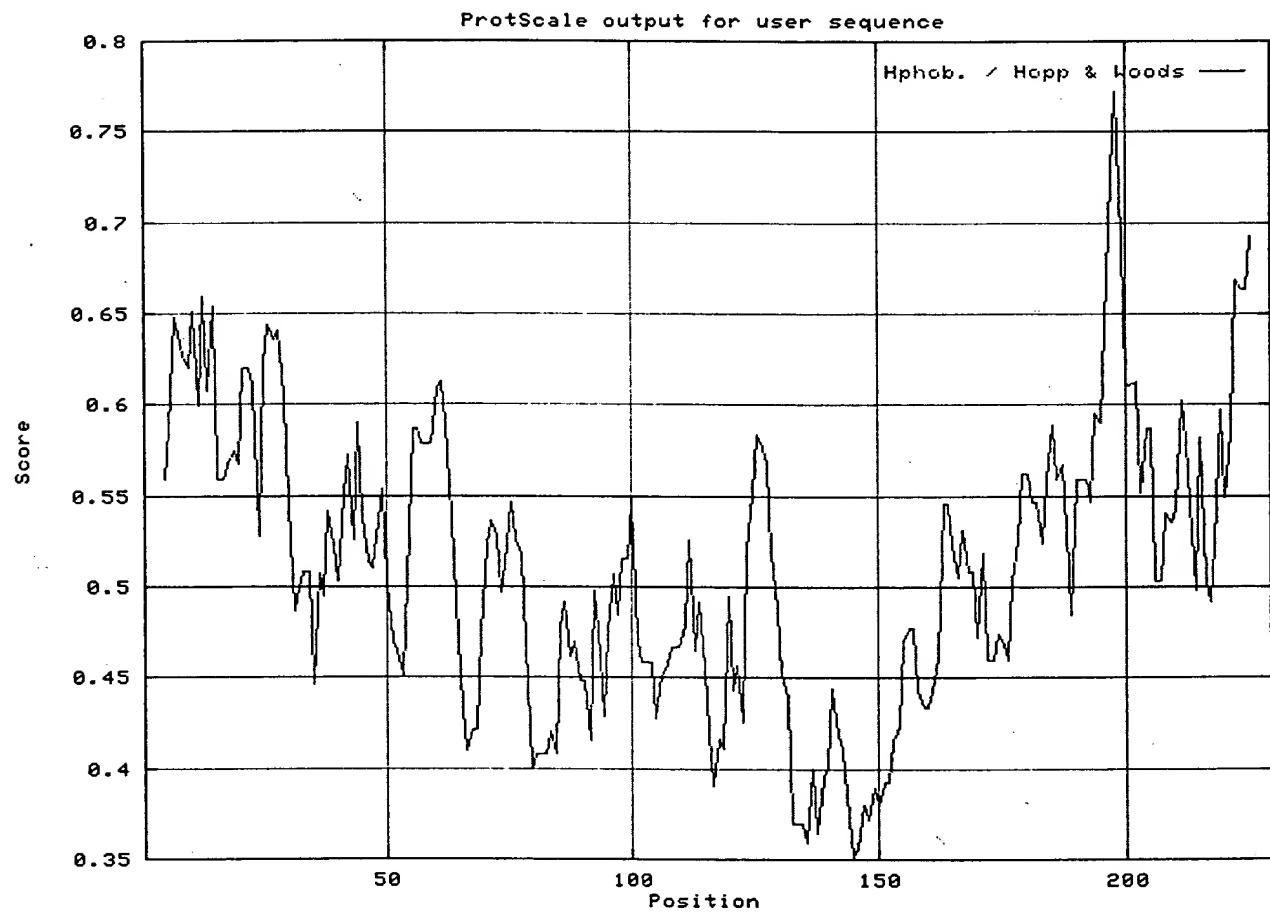


Figure 6: 85P1B3 Hydropathicity Profile
(Kyte J., Doolittle R.F., 1982. J. Mol. Biol. 157:105-132)

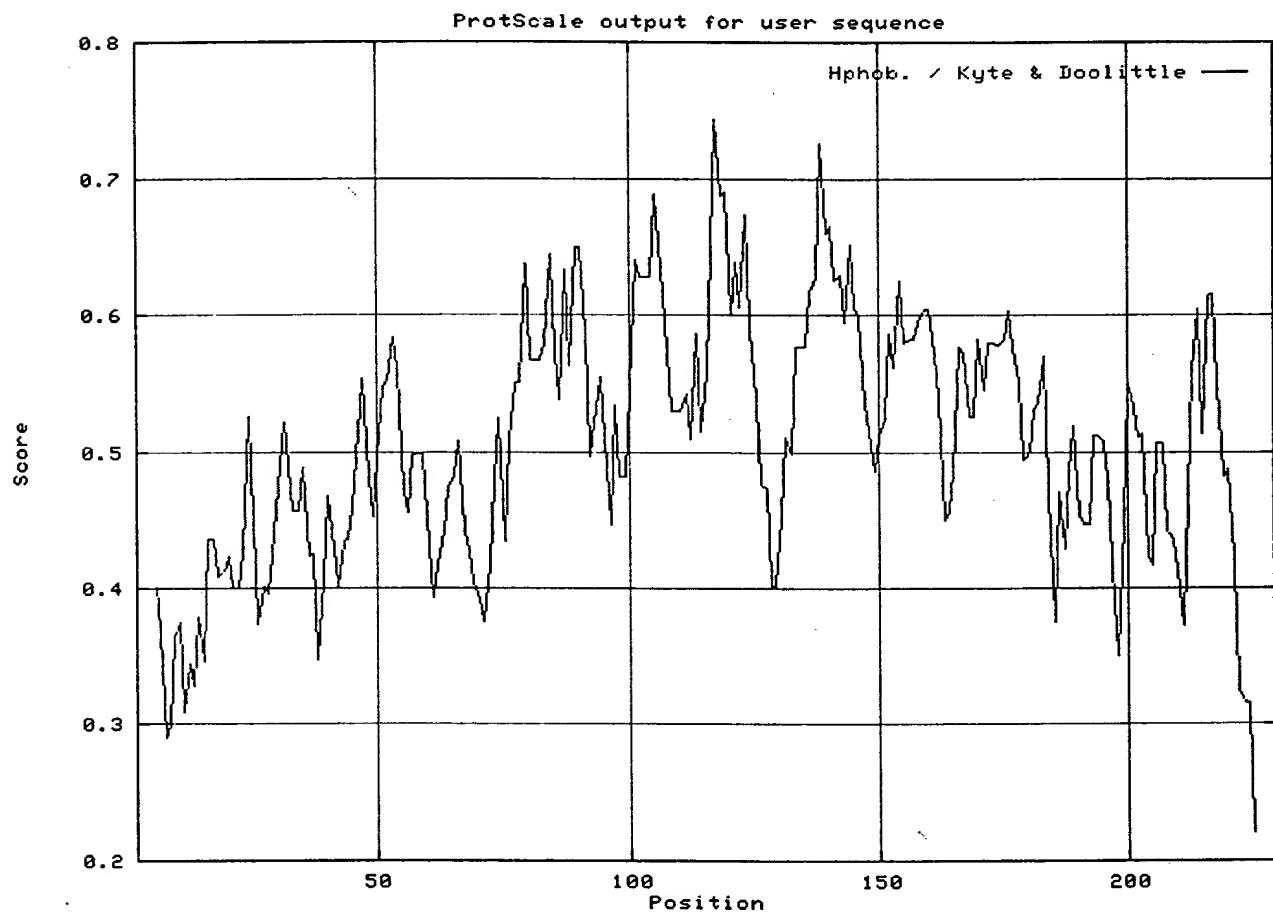


Figure 7: 85P1B3 % Accessible Residues Profile
(Janin J., 1979. Nature 277:491-492)

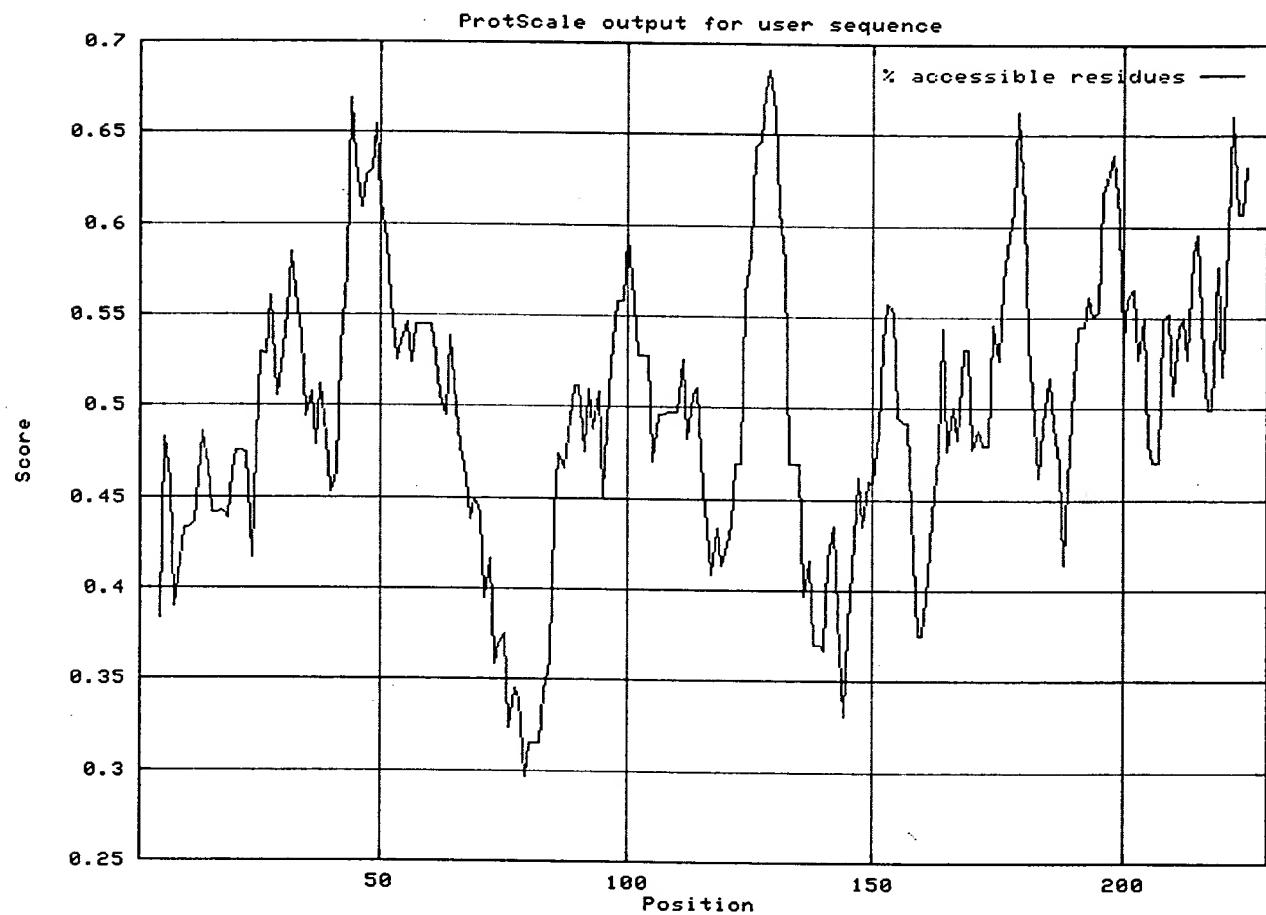


Figure 8: 85P1B3 Average Flexibility Profile
(Bhaskaran R., Ponnuswamy P.K., 1988.
Int. J. Pept. Protein Res. 32:242-255)

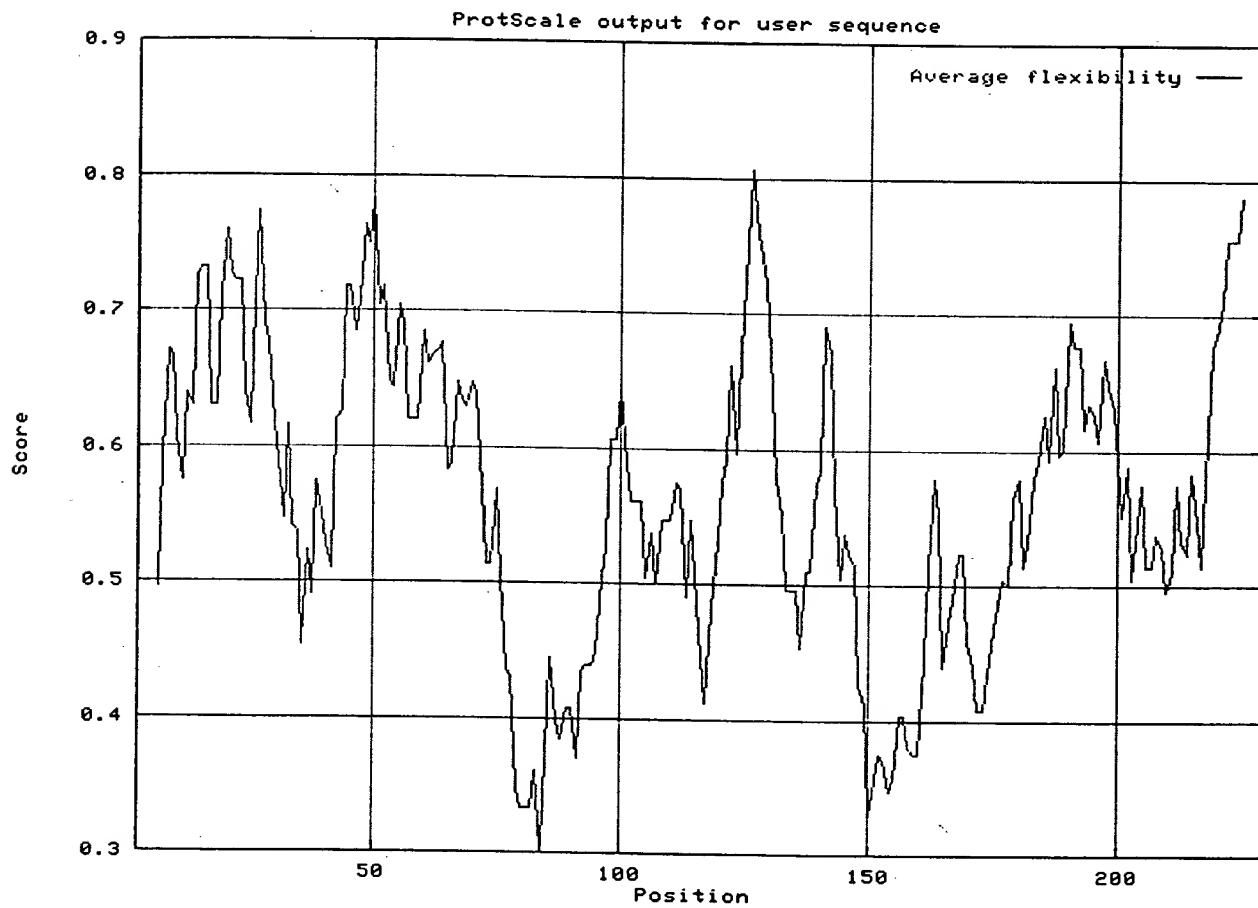


Figure 9: 85P1B3 Beta-turn Profile
(Deleage, G., Roux B. 1987. Protein Engineering 1:289-294)

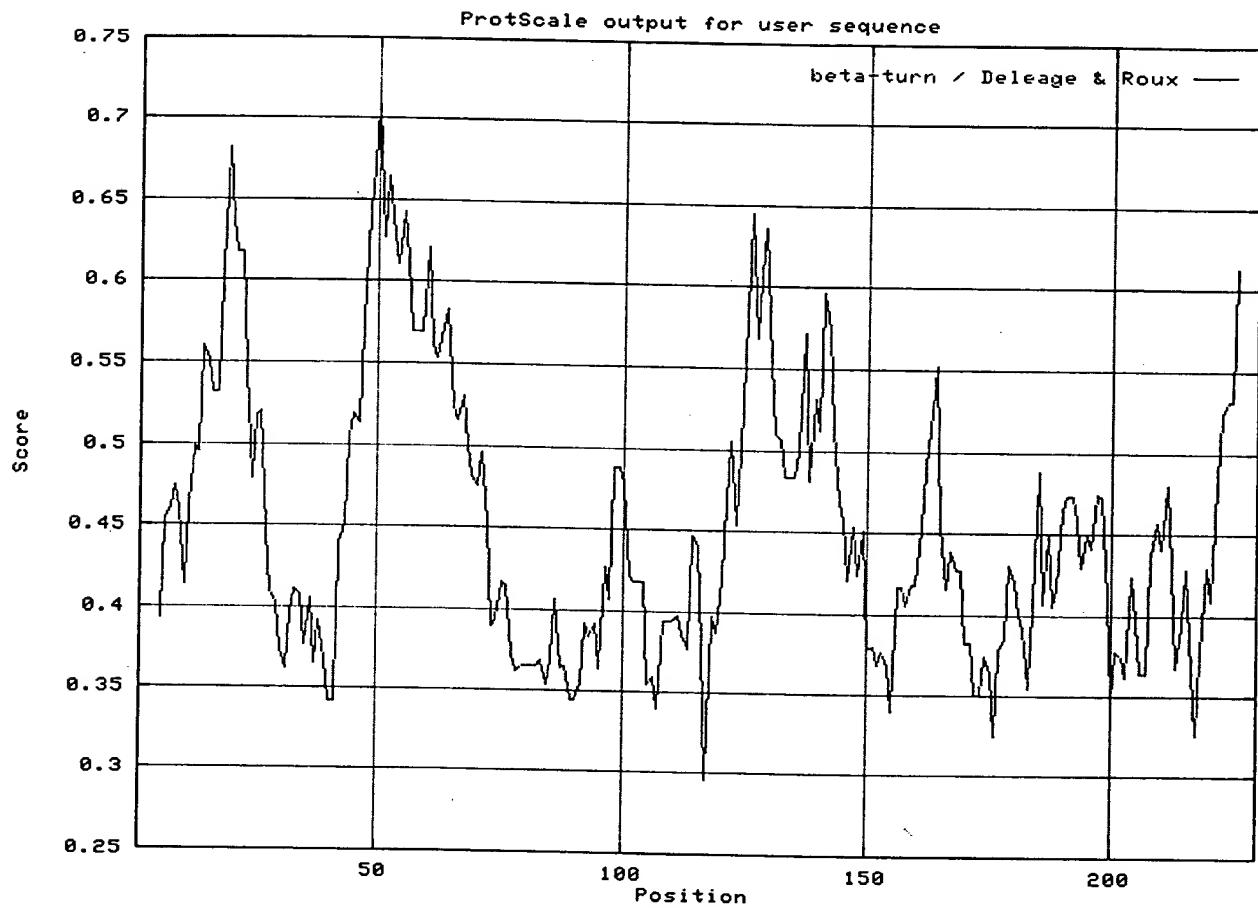


Figure 10 RT-PCR analysis of 85P1B3 expression.

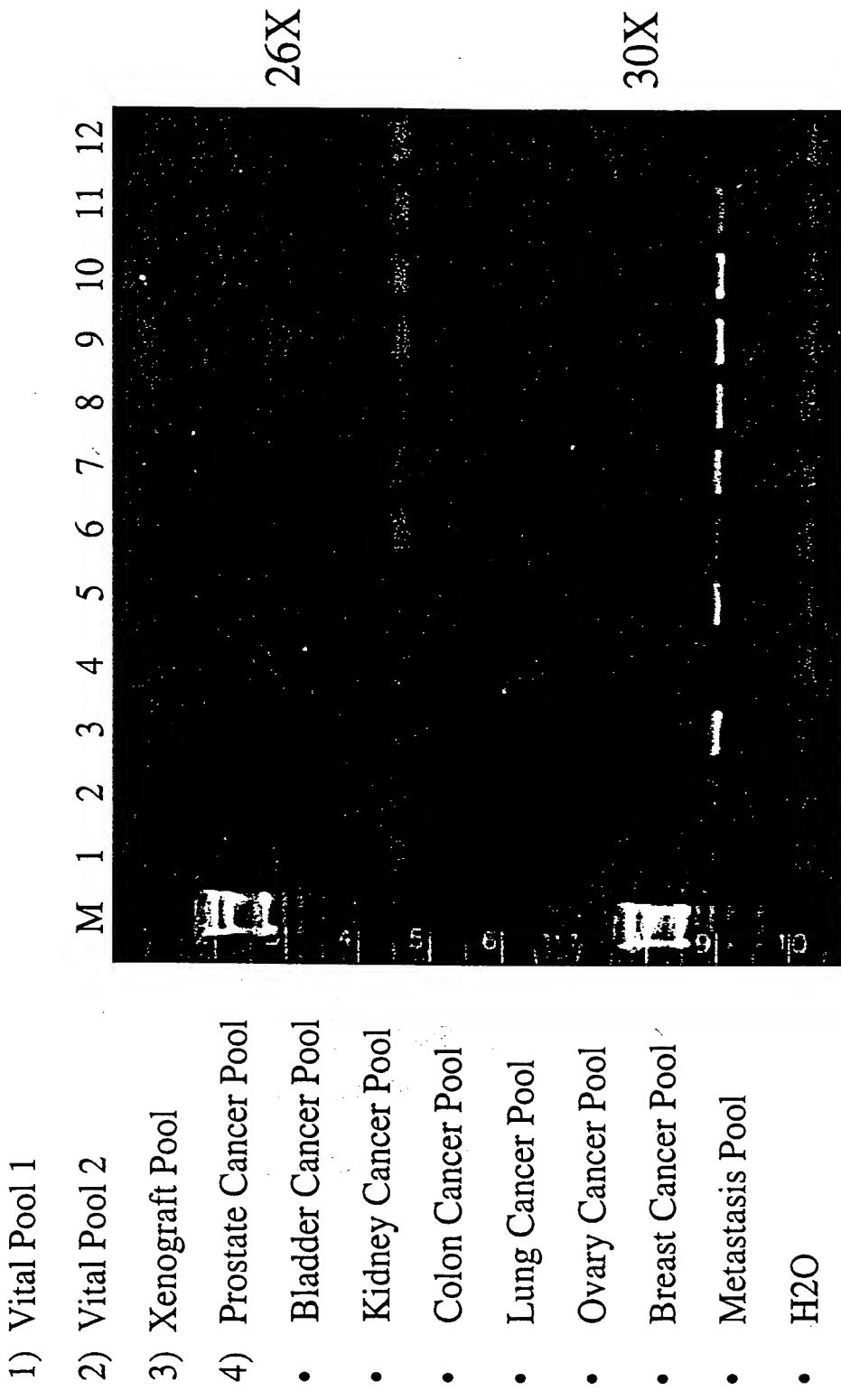


Figure 11 Expression of 85P1B3 in Normal Human Tissues

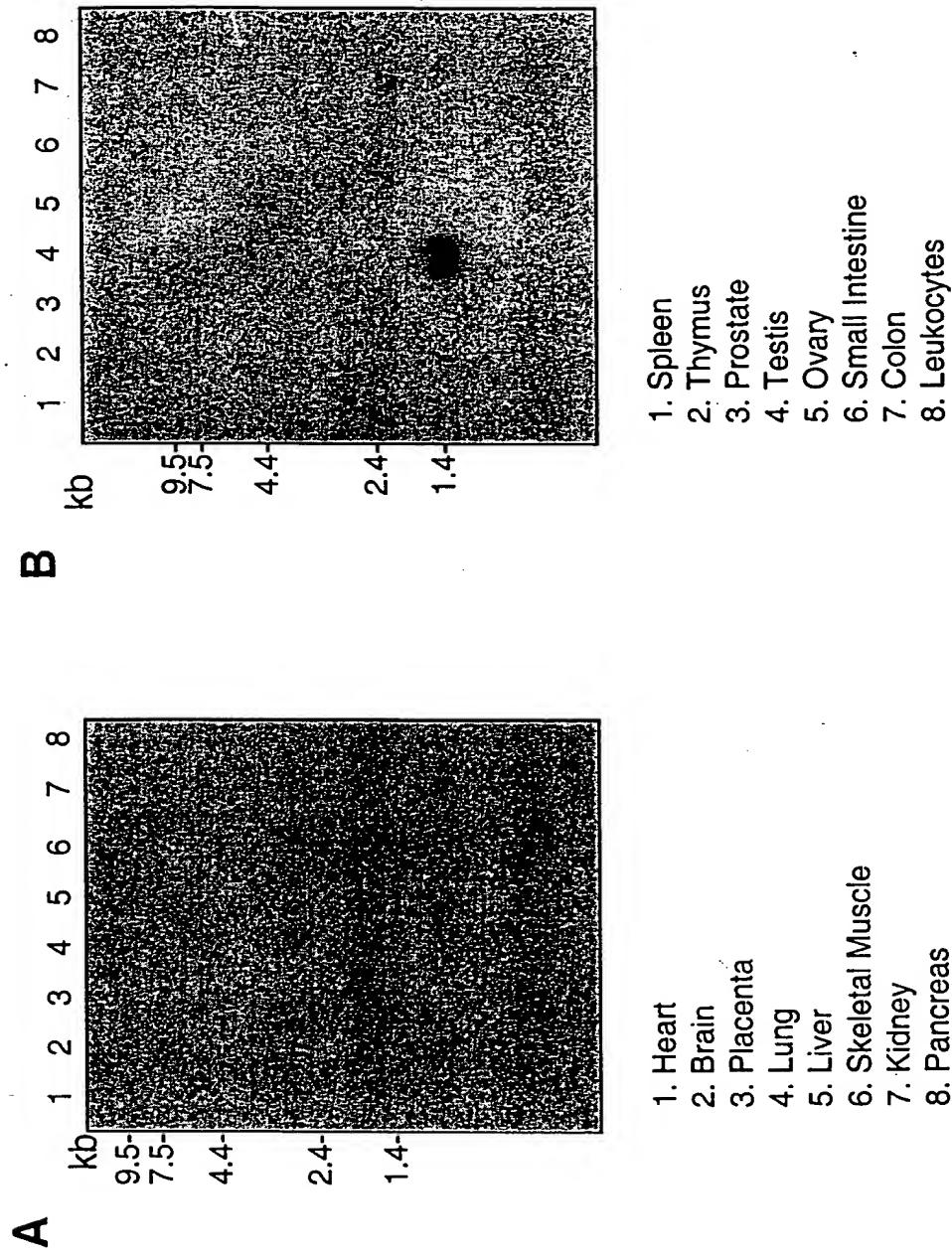


Figure 12 Expression of 85P1B3 in Human Cancer Cell lines

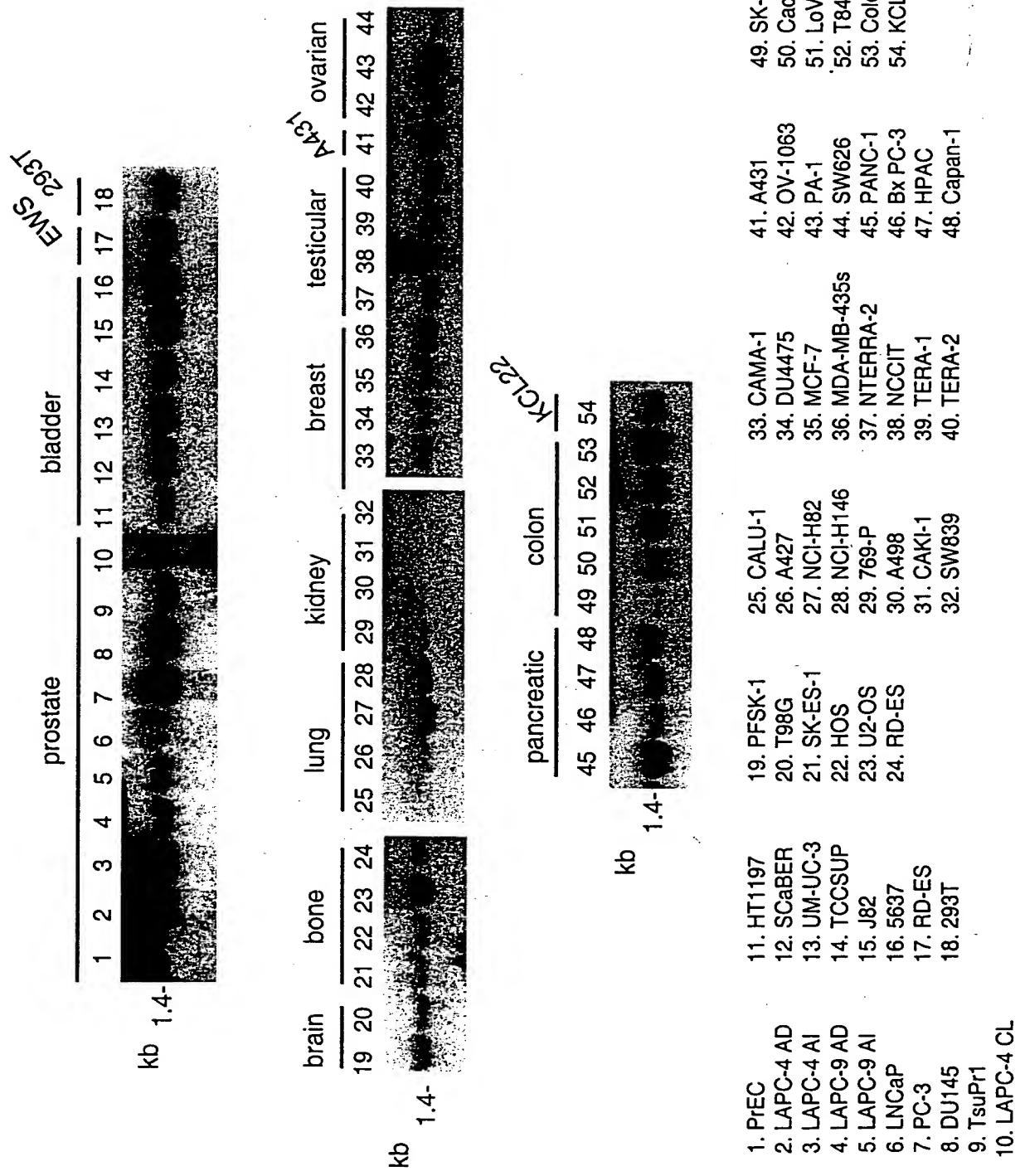
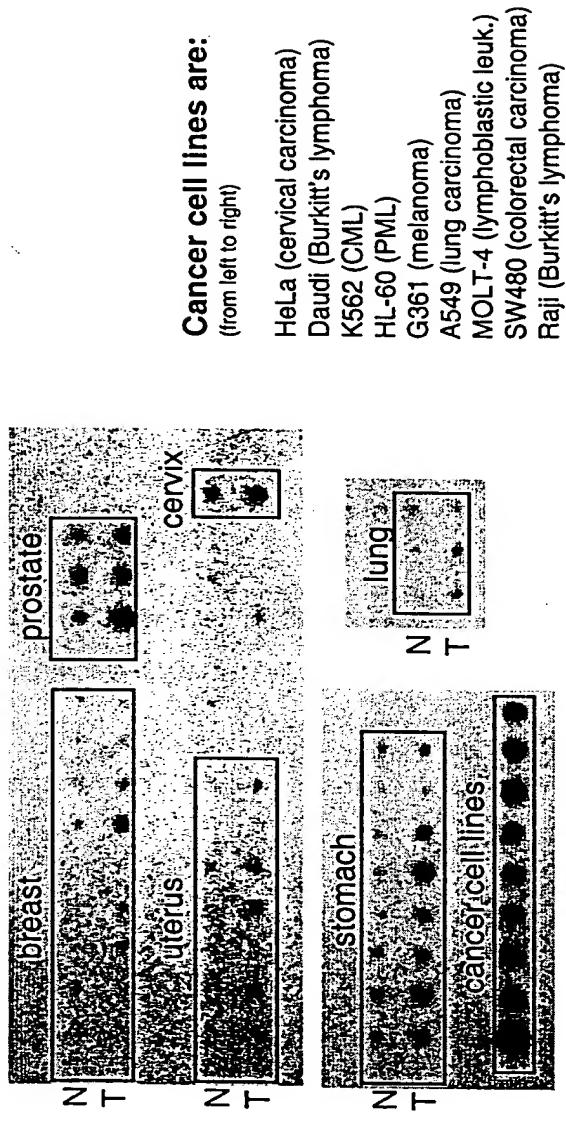


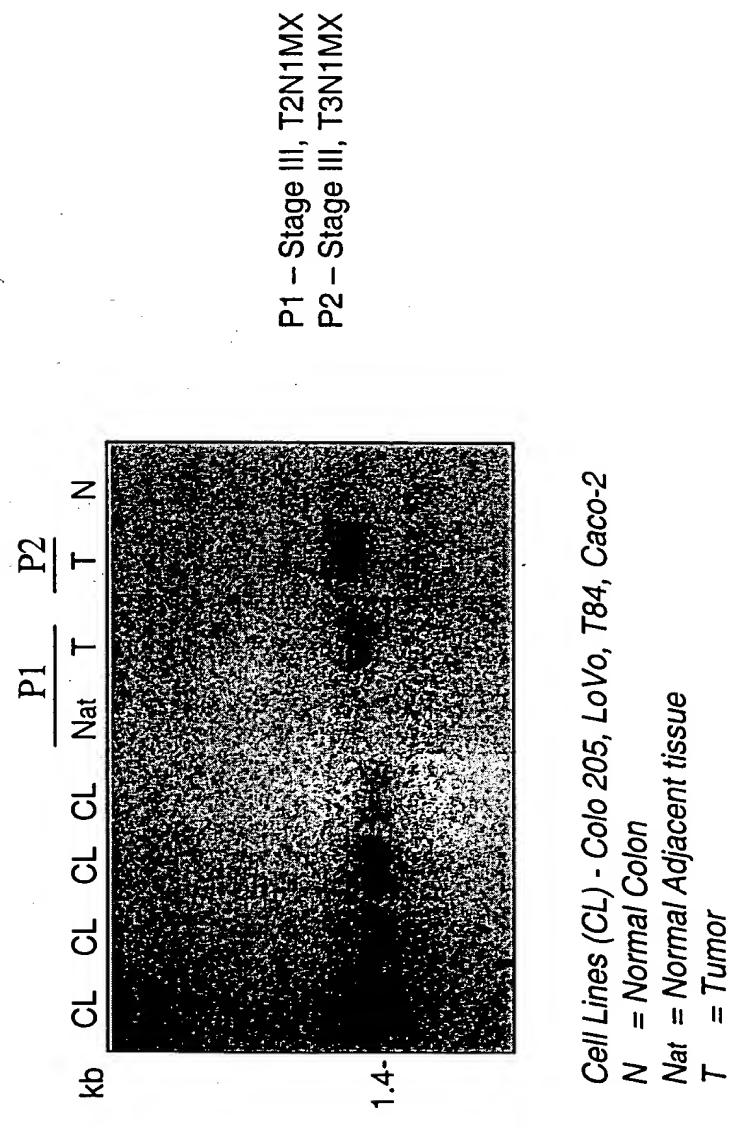
Figure 13 Expression of 85P1B3 in Patient Cancer Specimens and Cancer Cell Lines



T = tumor RNA

N = normal adjacent tissue RNA

Figure 14 Expression of 85P1B3 in Colon Cancer Patient Specimens



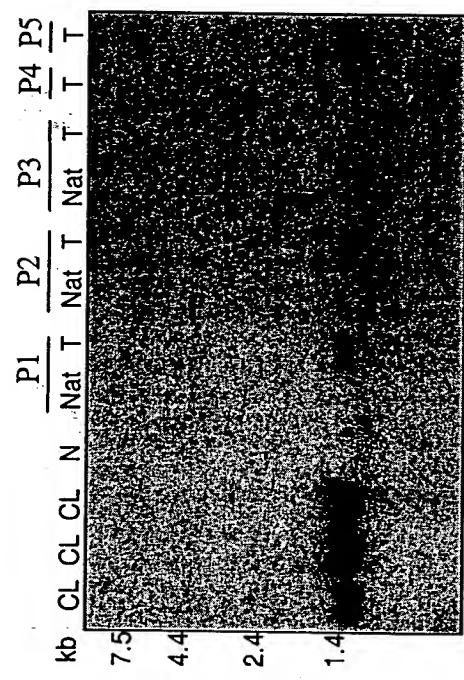
Cell Lines (CL) - Colo 205, LoVo, T84, Caco-2

N = Normal Colon

Nat = Normal Adjacent tissue

T = Tumor

Figure 15 Expression of 85P1B3 in Bladder Cancer Patient Specimens



P1 - Transitional, grade 2

P2 - Transitional, grade 3/2

P3 - Transitional

P4 - Polypoid cystitis

P5 - Papillary, grade 3

CL = cell lines listed in order: UM-UC-3, J82, SCABER

P = Patient

N = Normal Bladder

Nat = Normal adjacent tumor

T = Tumor

Figure 16 Expression of 85P1B3 in Lung Cancer Patient Specimens

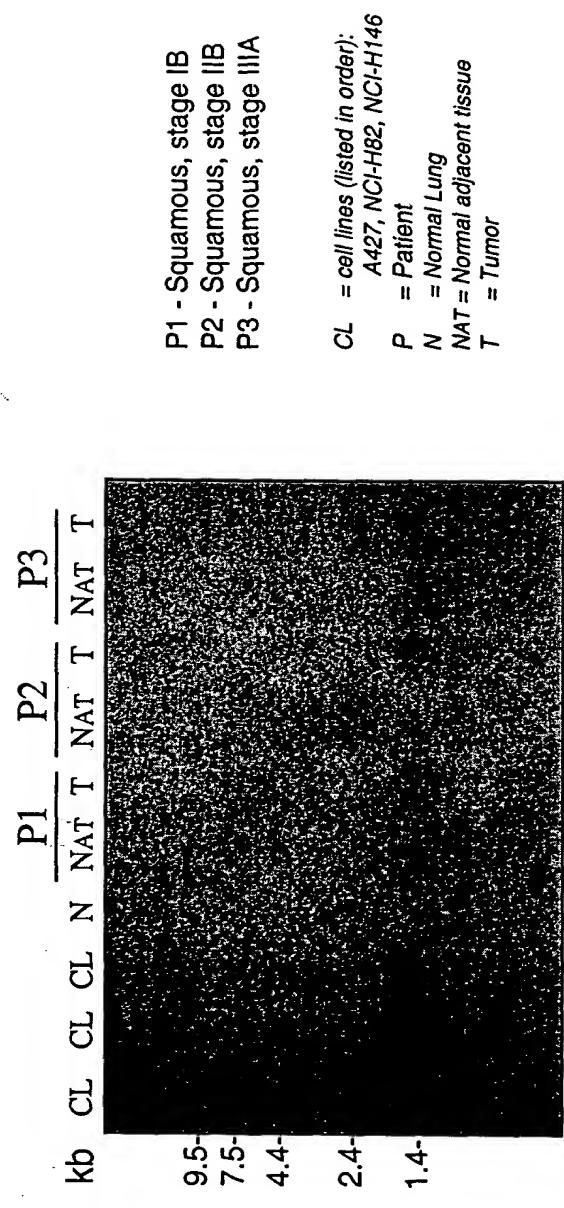


Figure 17 Expression of 85P1B3 in Prostate Cancer Xenografts Following Castration

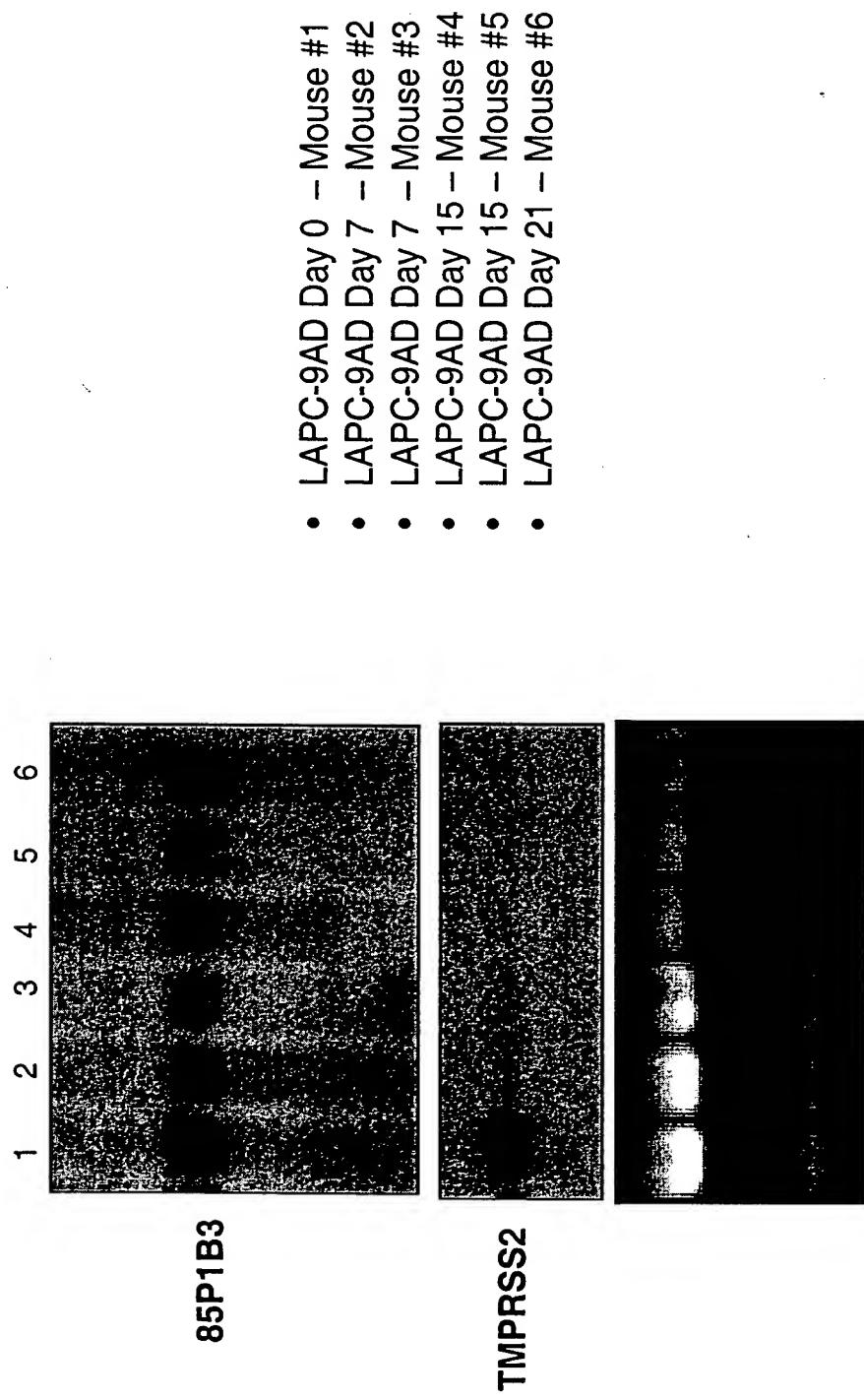


Figure 18 Expression of 85P1B3 in PC3 Cells Following Retroviral-Mediated Gene Delivery

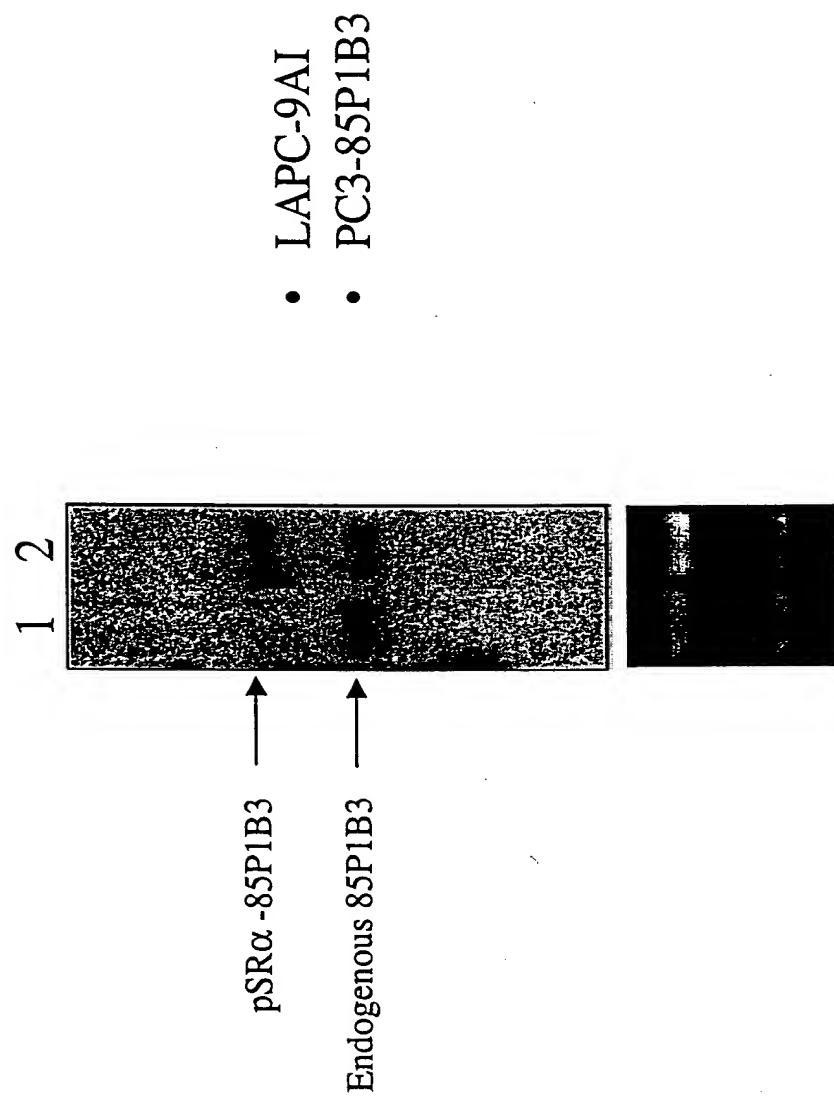


Figure 19.

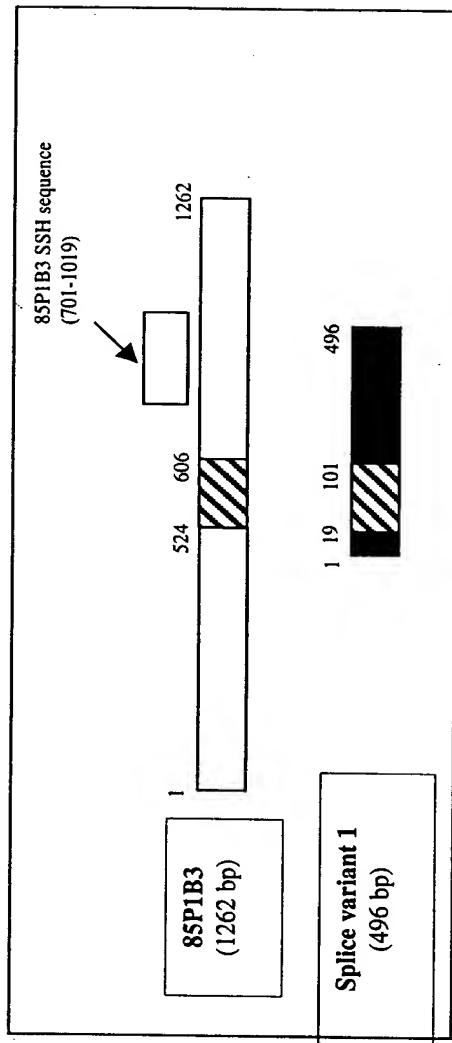


Figure 20

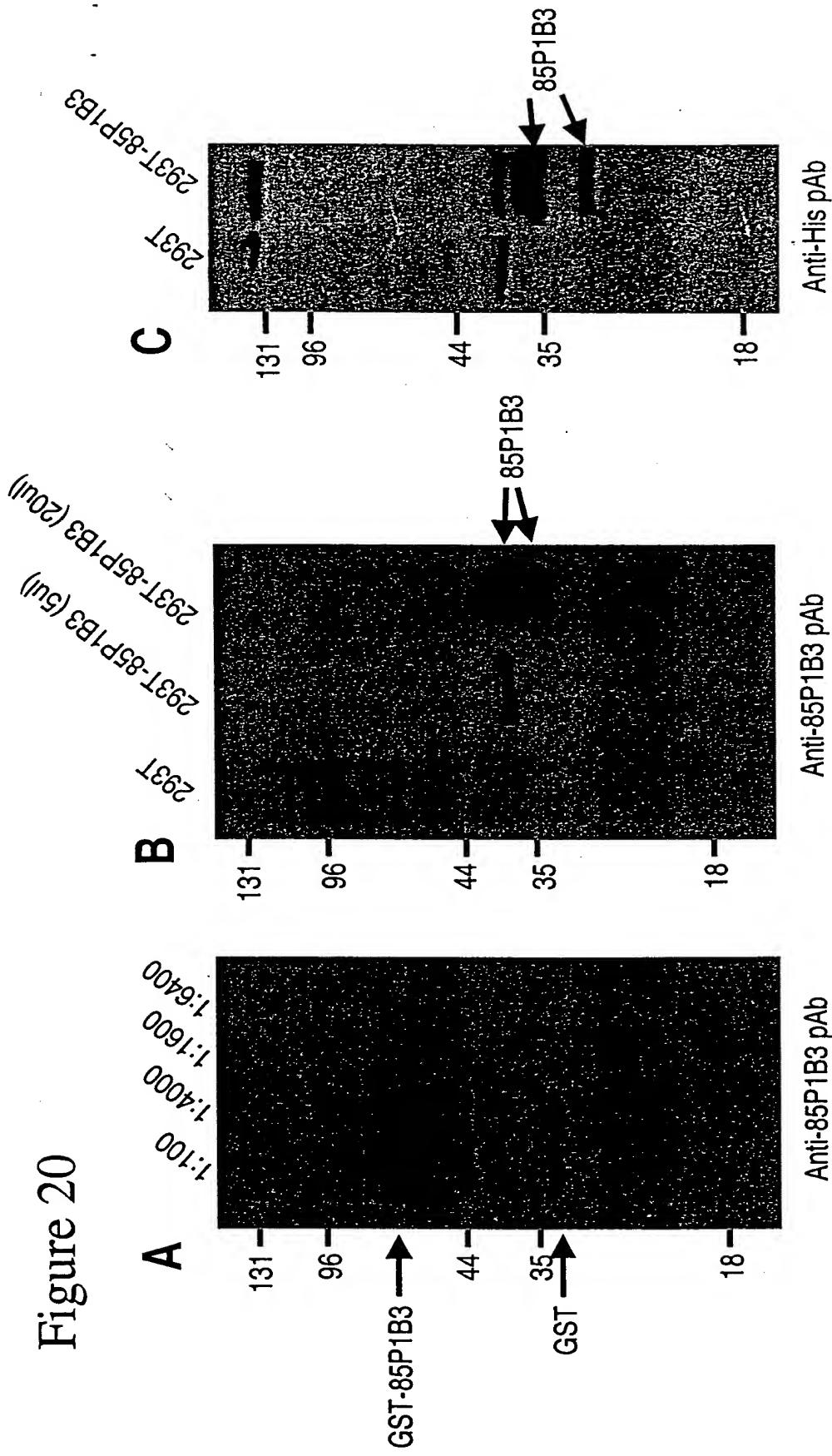


Fig. 21A

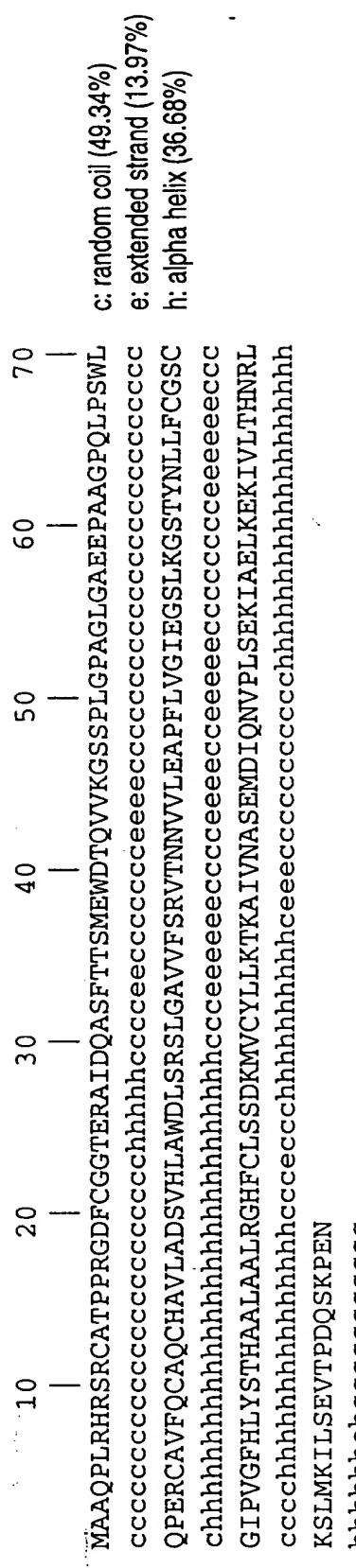


Fig. 21B

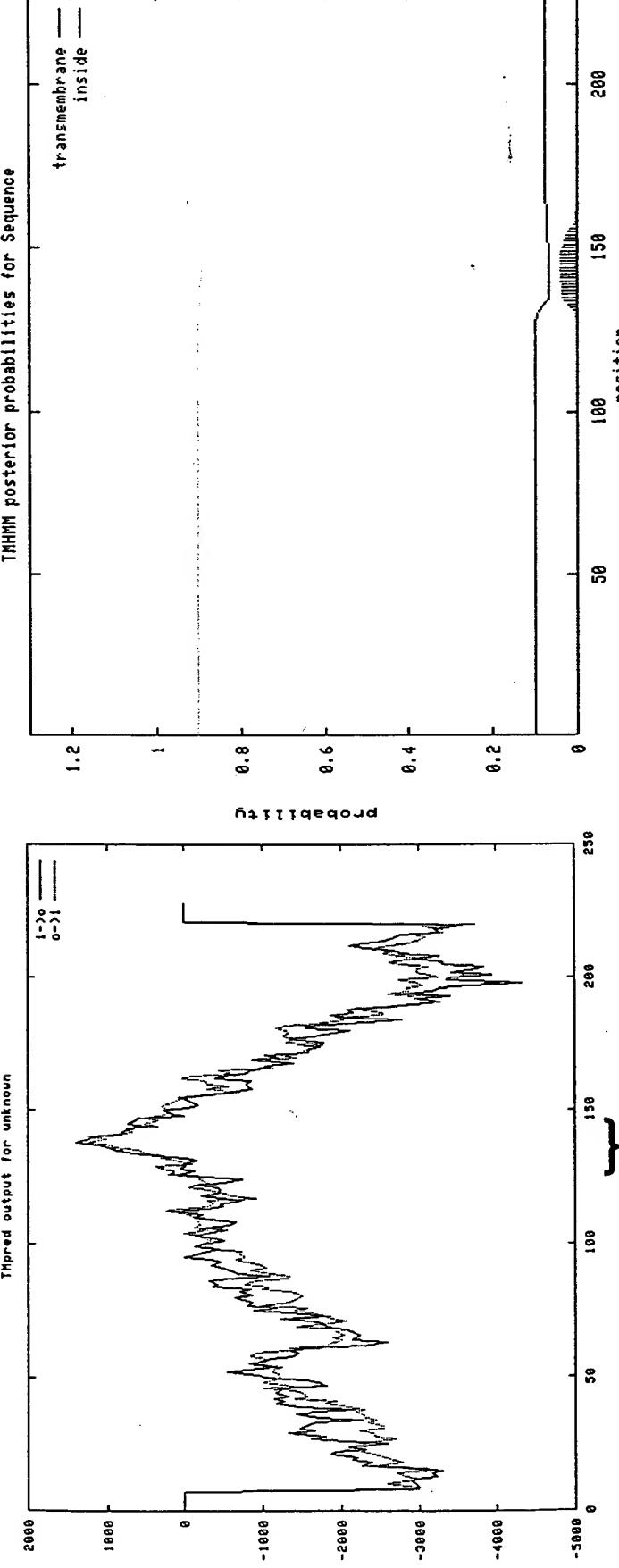
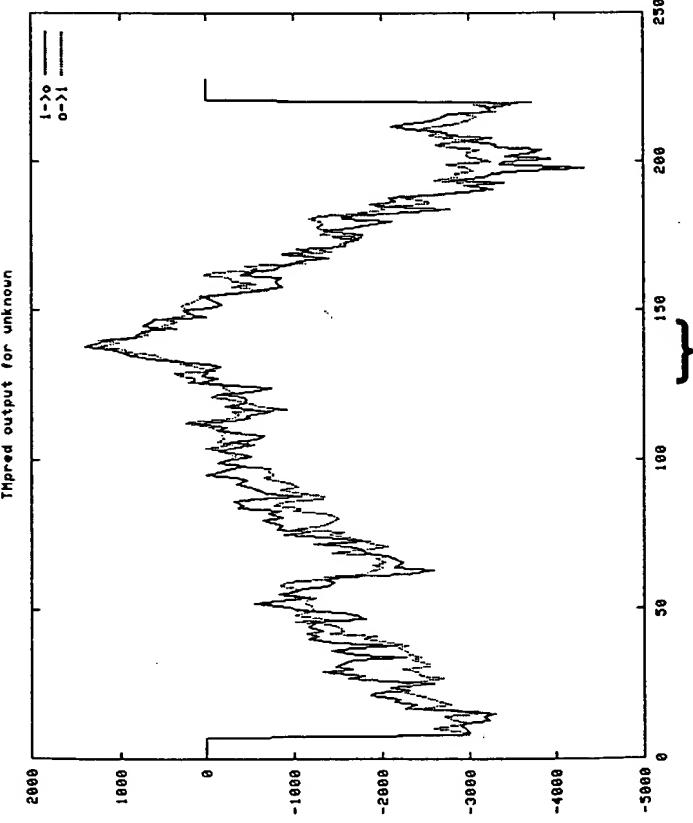


Fig. 21C



1 transmembrane from amino acids 129-149

No transmembrane domains, soluble protein